

**Marshall University - College of Science - Physics Department**  
**PHY 204 Syllabus (1 Credit hour)**

Course/Number	General Physics Lab: PHY 204 section 204 ; CRN 4737
Semester/Year	Spring Semester (Jan.12 – May.08) 2015
Day/Time/Place	Wed. 10:00 – 11:50pm , in Sci.103
Instructor / Office	Curt Foltz / Sci.159
Phone/Email	304-696-2519/ foltzc@marshall.edu
Office Hours	_T_RF 10:30-1:30pm , W 9:30-11:30 , 4:30-6pm , F 2:30-4pm
University Policies	By enrolling in this course, you agree to all Marshall University policies published in the current undergraduate catalog. The full text of most policies (listed below) can be found on-line at <a href="http://www.marshall.edu/academic-affairs/policies">www.marshall.edu/academic-affairs/policies</a> Academic Dishonesty / Excused Absences / Incomplete / Inclement Weather / Disabilities / Affirmative Action / Computing Services Acceptable Use / Sexual Harassment / Dead Week / Academic Forgiveness / Academic Probation and Suspension / Academic Rights and Responsibilities. General Emergencies: <a href="http://www.marshall.edu/emergency">www.marshall.edu/emergency</a> MU Alert Sign Up: <a href="http://www.marshall.edu/emergency/mualert">www.marshall.edu/emergency/mualert</a>
Instructor Policies	<b>Course corrections:</b> the Physics department and/or instructor may make changes in the course content, schedule, and/or instructional techniques during the term, within limits set by policies and procedures of Marshall University.  <b>Absences:</b> Students are expected to attend all lab sessions at the regularly-scheduled time, or to attend another lab section <u>that week</u> , to do the lab at a different time. 204 Lab sections: T 8, T 12, W 12, W 2pm, W 4pm, R 8, R 10 ... (Fri.1pm?) Have that instructor initial your Lab Manual's last data page.

**Required Materials and Access**

Textbook	PHY 204 Laboratory Manual, 4 <sup>th</sup> edition (2016, Van Riner)
Flash Drive	use with the Spark interface, to save experiment data and analysis
MU email	your MU email address will be my official communication channel

**Course Description**

Physics 2 laboratory is a hands-on active environment, where students will work in teams to set up and carry out experiments in electricity, magnetism, and optics. We will apply, verify or discover concepts and laws of physics. We will draw diagrams to represent the microscopic behavior of invisible charges. Labs will investigate the principles covered in Physics 2 lecture, but might be 2 or 3 weeks ahead or behind. Students are required to read the Lab Manual before coming to class.

Physics 204 expects that you learned the core facts and ideas and skills from Physics 1 – if you did not, it is your responsibility to recognize what you're missing, to learn it now. Read the Lab Manual with this in mind – if it doesn't make sense, see me before Lab.

## Grades

Grade Components		Grade Letter Boundaries	
12 Lab Reports × 10 points	49%	A	90% - 100%
12 pre-lab Quizzes × 2 points	10%	B	80% - 90%
2 Exams × 50 points	41%	C	70% - 80%
<b>You must pass (&gt;60%) at least 1 Exam in order to pass the course (above F)</b>		D	60% - 70%
		F	0% - 60%

### Grade components in detail

Lab Report	1) Title (name) page and pre-lab questions – solo – not graded 2) all Lab Manual “Investigation” pages – team – graded 3) Graphs or Analysis pages not in the Lab Manual – team – graded 4) Lab Manual “Conclusions” page – solo – graded 5) Lab Manual “Post-Lab” questions – solo – not graded 6) Lab Manual “Summary Questions” page – solo – graded 7) Discussion-of-results and Conclusion page – solo – graded do data confirm expectations? convincingly? uncertainty/errors?
	Reports (stapled) are to be turned in as the next lab session begins. Late Reports will lose 1 point each day that they are late; absences should turn in Reports ASAP in Sci.159 or Sci.252
Pre-Lab Quiz	1-3 questions, intending to discern whether you read the Lab.
Exam	$\frac{1}{3}$ hands-on “practical” new activity similar to prior labs $\frac{2}{3}$ written questions about prior labs’ purposes, procedures, error sources and effects, analysis processes, graph interpretations, etc. I intend for them to be NOT like lecture text-book questions!

### Lab Schedule

Jan.14	Jan.21	Jan.28	Feb.04	Feb.11	Feb.18	Feb.25	Mar.04	Mar.11
Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	make-ups	<b>Exam 1</b>
Mar.18	Mar.25	Apr.01	Apr.08	Apr.15	Apr.22	Apr.29	May.8@10/May.6@12	
break	Lab 8	Lab 9	Lab 10	Lab11	Lab12	make-ups	<b>Exam 2</b>	

University closings might require us to modify this schedule as the semester progresses, if so, the course Grade Components’ percentages will remain essentially the same.

Learning Outcome	Practiced in	Assessed in
observe and measure	each lab activity	lab results, exams (h)
control & manipulate with devices	most lab activities	lab results, exams (h)
use careful math analysis	most labs’ analysis	lab Reports, exams (h,w)
recognize uncertainties and errors	lab Reports	lab Reports, exams (h,w)
form & test hypotheses	some lab activities	lab questions, exams (w)
conclude from observations	each lab activity	lab questions, exams (w)
communicate experiment results	each lab Report	lab Reports, exams (h)
notice calibration issues/effects	some lab activities	lab Reports, exams (h,w)
recognize uncontrolled variables	some lab activities	lab Reports, exams (w)
know basic equipment principles	some lab activities	lab Reports, exams (h,w)